Termination Panel with BNC connectors for Analog I/O Boards

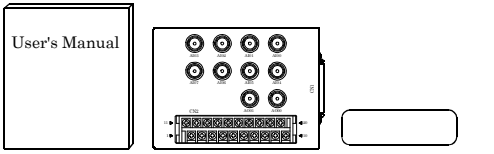
ATP-8L User's Manual

CONTEC CO.,LTD.

Thank you for purchasing the CONTEC product.
The product consists of the items listed below. Check, with the following list, that your package is complete. If you discover damaged or missing items, contact your retailer.

Product Configuration List

- ATP-8L Termination Panel…1
- This User's Manual…1
- Signal name label sheet…1



⚠ CAUTION

- Use it in a regulated system requirements (temperature and humidity).
- Do not use or store the product in a location exposed to extremely high or low temperature or susceptible to rapid temperature changes.

  Example: - Exposure to direct sun
  - In the vicinity of a heat source
- Clean the ATP-8L by wiping lightly with a soft cloth moistened with water or a cleaning solution. Take care to avoid the use of benzene, thinners or other volatile solutions which may cause deformation or discoloration.
- CONTEC will bear no responsibility for any problems, etc., resulting from modifying this product.
- When carrying the product, be careful not to apply direct vibration or shock to the board.

Notes

- The information in this document is subject to change without notice.
- All relevant issues have been considered in the preparation of this document. Should you notice an omission or any questionable item in this document, please feel free to notify CONTEC CO., LTD.
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1. About the Termination Panel

ATP-8L are the termination panel with BNC connectors for CONTEC's analog I/O board AIO-160802L-LPE, AI-1616L-LPE, AO-1604L-LPE, ADA16-8/2(LPCI)L, AD16-16(LPCI)L, DA16-4(LPCI)L, ADAI16-8/2(LPCI)L, ADI16-16(LPCI)L, DAI16-4(LPCI)L AIO-160802LI-PE, AI-1616LI-PE, AO-1604LI-PE of LowProfile size and PC card ADA16-8/2(CB)L *1.
This terminal box eases your connection of external devices and signals.
Note that a part of the analog I/O signals cannot be used when AI-1616L-LPE, AI-1616LI-PE, AO-1604LI-PE, AO-1604L-LPE, AD16-16(LPCI)L, DA16-4(LPCI)L, ADI16-16(LPCI)L and DAI16-4(LPCI)L are used.

*1 For more details on this, refer to "5. Specifications".

1.1. Features

Compact designing

With its compact designing, you can place this BNC connector terminal box at your Personal computer. By removing the connection cable, you can carry this box with your easily.

Lightly designing by Aluminum

It is lightly designed by using an aluminum in consideration of portable.

Easy to connect external signals

Allow you to connect analog signal through a BNC cable. All other digital signals are connected through M3 screw terminals.

Signal name label sheet

A name label sheet of digital signals of AD board or cards is bundled.
Sticking this name label helps you to link the external digital signals to our board or PC-Card products.

2. Connect an Board

2.1. Terminal Pin and the Corresponding Board / PC-Card Connector Pin Assignment

Table 1 Terminal Pin and the Related Board / PC-Card Connector Pin Assignment

Signal name on ATP-8L	Description	Signal name on Supported Item
BNC connectors		
AI00 - AI07	Analog inputs signal.	Analog Input00 - Analog Input07
AO00 - AO01	Analog outputs signal.	Analog Output00 - Analog Output01
Screw terminals		
AISTART	Trigger input signal that starts one of analog to digital conversion sampling transactions.	AI External Start Trigger Input
AISTOP	Trigger input signal that stops an on going analog to digital conversion sampling transaction.	AI External Stop Trigger Input
AIEXCLK	Clock input signal for analog to digital conversion transactions.	AI External Sampling Clock Input
AOSTART	Trigger input signal that starts one of digital to analog conversion sampling transactions.	AO External Start Trigger Input
AOSTOP	Trigger input signal that stops an on going digital to analog conversion sampling transaction.	AO External Stop Trigger Input
AOEXCLK	Clock input signal for digital to analog conversion transactions.	AO External Sampling Clock Input
DI00 - DI03	Digital input signals.	Digital Input00 - Digital Input03
DO00 - DO03	Digital output signals.	Digital Output00 - Digital Output03
CNTGATE	Counter gate control input signal.	Counter Gate Control Input
CNTUPCLK	Pulse input signal for Up counting transaction.	Counter Up Clock Input
CNTOUT	Counter output signal.	Counter Output
DGND	Ground for all the digital signals.	Digital Ground
Reserved	Reserved.	Reserved

- For an AIO-160802L-LPE, ADA16-8/2(LPCI)L, ADAI16-8/2(LPCI)L, AIO-160802LI-PE board and ADA16-8/2(CB)L PC card
  Eight channels of analog input signals, two channels of analog output signals, digital I/O signals, counter I/O signals, trigger input signals for analogue I/O signals can be connected through ATP-8L terminal box.
- For an AI-1616L-LPE, AD16-16(LPCI)L, ADI16-16(LPCI)L, AI-1616LI-PE board
  Only the first eight channels in sixteen channels of analog input signals, digital I/O signals, counter I/O signals, trigger input signals for analogue I/O signals can be connected through ATP-8L terminal box. The other analog input signals cannot be connected through ATP-8L terminal box.
- For an AO-1604L-LPE, DA16-4(LPCI)L, DAI16-4(LPCI)L, AI-1616LI-PE, AO-1604LI-PE board
  Only the first two channels in four channels of analog output signals, digital I/O signals, counter I/O signals, trigger input signals for analogue output signals can be connected through ATP-8L terminal box. The other analog output signals cannot be connected through ATP-8L terminal box.

2.2. Pin Assignment of Connector

Non Connect	N.C	50	25	AO 00	Analog Output 00
Analog Ground (for AO)	AGND	49	24	AGND	Analog Ground (for AO)
Non Connect	N.C.	48	23	AO 01	Analog Output 01
Analog Ground (for AO)	AGND	47	22	AGND	Analog Ground (for AO)
Analog Input 04	AI 04	46	21	AI 00	Analog Input 00
Analog Ground (for AI)	AGND	45	20	AGND	Analog Ground (for AI)
Analog Input 05	AI 05	44	19	AI 01	Analog Input 01
Analog Ground (for AI)	AGND	43	18	AGND	Analog Ground (for AI)
Analog Ground (for AI)	AGND	42	17	AGND	Analog Ground (for AI)
		41	16		
Analog Input 06	AI 06	40	15	AI 02	Analog Input 02
Analog Ground (for AI)	AGND	39	14	AGND	Analog Ground (for AI)
Analog Input 07	AI 07	38	13	AI 03	Analog Input 03
Analog Ground (for AI)	AGND	37	12	AGND	Analog Ground (for AI)
AO External Start Trigger Input	AO START	36	11	AI START	AI External Start Trigger Input
AO External Stop Trigger Input	AO STOP	35	10	AI STOP	AI External Stop Trigger Input
AO External Sampling Clock Input	AO EXCLK	34	9	AI EXCLK	AI External Sampling Clock Input
Digital Ground	DGND	33	8	DGND	Digital Ground
Digital Output 00	DO 00	32	7	DI 00	Digital Input 00
Digital Output 01	DO 01	31	6	DI 01	Digital Input 01
Digital Output 02	DO 02	30	5	DI 02	Digital Input 02
Digital Output 03	DO 03	29	4	DI 03	Digital Input 03
Digital Ground	DGND	28	3	DGND	Digital Ground
Counter UP Clock Input	CNT UPCLK	27	2	CNT GATE	Counter Gate Control Input
Reserved	Reserved	26	1	CNT OUT	Counter Output

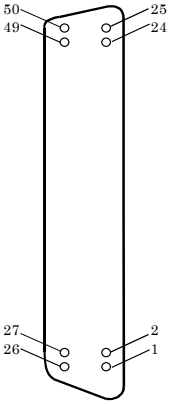


Figure 1 Pin Assignment of Connector CN1

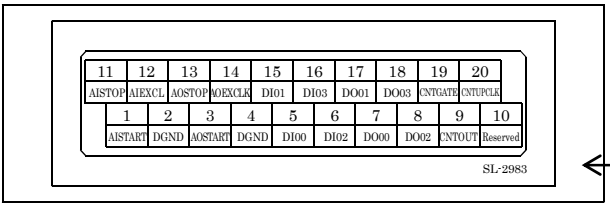
11	12	13	14	15	16	17	18	19	20
AISTOP	AIEXCLK	AOSTOP	AOEXCLK	DI01	DI03	DO01	DO03	CNTGATE	CNTUPCLK

1	2	3	4	5	6	7	8	9	10
AISTART	DGND	AOSTART	DGND	DI00	DI02	DO00	DO02	CNTOUT	Reserved

Figure 2 Pin Assignment of Digital Input and Output Signals (CN2)

2.3. Example of Using Signal Name Label Sheet

A name label sheet for M3 screw terminals is bundled with this ATP-8L terminal box.
You can stick one of these labels either on top of the screw terminals' cover or at front side of ATP-8L box by your preference, corresponding to your AD product.


11 12 13 14 15 16 17 18 19 20
AISTOP AIEXCL AOSTOP AOEXCLK DI01 DI03 DO01 DO03 CNTGATE CNTUPCLK
1 2 3 4 5 6 7 8 9 10
AISTART DGND AOSTART DGND DI00 DI02 DO00 DO02 CNTOUT Reserved
SL-2983
Name Label Sheet

Stick one of these labels either on top of the screw terminals' cover or at front side of ATP-8L box.

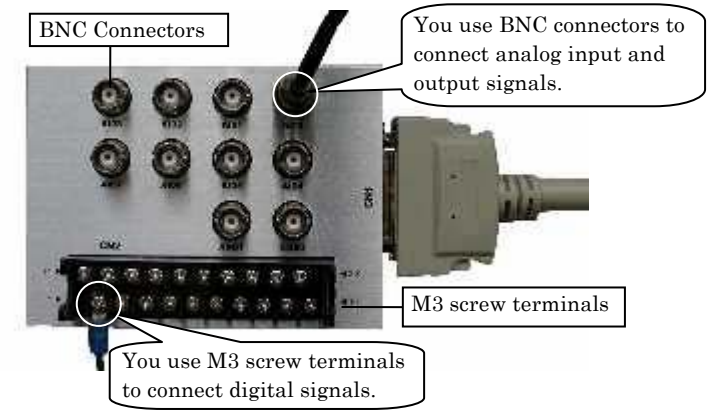
2.4. Application with Board / PC-Card

For the board such as AIO-160802L-LPE, Connect it to the CN1 by using the CONTEC option cable (PCB50PS-**P). For the ADA16-8/2(CB)L, Connect it to the CN1 by using the CONTEC option cable (ADC-68M/50M).

⚠ CAUTION

We suggest you to use a PCB50PS-0.5m option cable to connect the board and terminal box.

2.5. Connect External Signals


BNC Connectors
You use BNC connectors to connect analog input and output signals.
M3 screw terminals
You use M3 screw terminals to connect digital signals.

3. Connection Drawing

Supported Item	ATP-8L
Analog Input 00 - 07	AI00 - 07
Analog Output 00 - 01	AO00 - 01
Digital Input 00 - 03	DI00 - 03
Digital Output 00 - 03	DO00 - 03
Analog Ground	Analog Ground
AI External Start Trigger Input	AISTART
AI External Stop Trigger Input	AISTOP
AI External Sampling Clock Input	AIEXCLK
AO External Start Trigger Input	AOSTART
AO External Stop Trigger Input	AOSTOP
AO External Sampling Clock Input	AOEXCLK
Counter Gate Control Input	CNTGATE
Counter Up Clock Input	CNTUPCLK
Counter Output	CNTOUT
Digital Ground	DGND
Reserved	Reserved

Figure 3 Connection Drawing

4. Dimensions

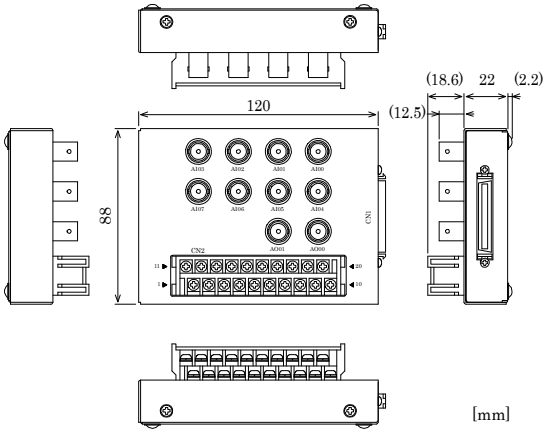


Figure 4 Dimensions

5. Specifications

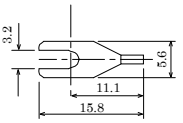
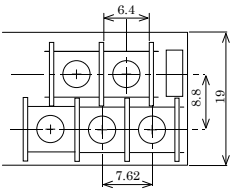
Table 2 Specifications of ATP-8L

Items	Specification
Supported Products	AIO-160802LI-PE, AI-1616LI-PE, AO-1604LI-PE, AIO-160802L-LPE, AI-1616L-LPE, AO-1604L-LPE, ADA16-8/2(LPCI)L, AD16-16(LPCI)L, DA16-4(LPCI)L, ADAI16-8/2(LPCI)L, ADI16-16(LPCI)L, DAI16-4(LPCI)L, ADA16-8/2(CB)L
Analog Input	8ch (BNC connector, AI00 - AI07)
Analog Output	2ch (BNC connector, AO00 - AO01)
Control input of analog I/O	6ch (Screw terminals, AISTART, AISTOP, AIEXTCLK, AOSTART, AOSTOP, AOEXTCLK)
Digital Input	4ch (Screw terminals, DI00 - DI03)
Digital Output	4ch (Screw terminals, DO00 - DO03)
Counter I/O	1ch (Screw terminals, CNTUP,CNTCLK,CNTOUT)
Operating Conditions	0 - 50ºC, 10 - 90%RH (no condensation)
Dimensions (mm)	120(W) x 40.6(D) x 88(H) (Not include the height of screw terminal block and rubber feet)
Weight	240g

Table 3 Specification of Interface Connector CN1

Type of Connector	10250-52A2JL[mfd by 3M] equivalent
Type of mating connector	10150-6000EL[mfd by 3M] equivalent
Connecting Cable	AIO-160802L-LPE, AI-1616L-LPE, AIO-160802LI-PE, AI-1616LI-PE, AO-1604LI-PE, AO-1604L-LPE, ADA16-8/2(LPCI)L, AD16-16(LPCI)L, DA16-4(LPCI)L, ADAI16-8/2(LPCI)L, ADI16-16(LPCI)L, DAI16-4(LPCI)L : PCB50PS-0.5P, PCB50PS-1.5P (Option) ADA16-8/2(CB)L : ADC-68M/50M (Option)

Table 4 Specification of Terminal Block

Terminal	OTB-55-20P-C mfd by Osada	Suitable Y-type terminal	C3A mfd by JST Mfg. Co., Ltd.
Screw type	M3	Dimension of Y-type terminal [mm]	
Dimensions of Terminal [mm]			

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